	MONDAY September 5	TUESDAY September 6	WEDNESDAY September 7	THURSDAY September 8 Day 1	FRIDAY September 9 Day 2
MOLEBIO				Introductions; Syllabus; Textbooks	Chemistry Skills QUIZ How to make various molar solutions Video Tutorials: safety measurement making solutions
HW				Bring a calculator!	Read DNA Science (pg. 321-330); Read Lab #1

	MONDAY September 12 Day 3	TUESDAY September 13 Day 4	WEDNESDAY September 14 Day 5	THURSDAY September 15 Day 6	FRIDAY September 16 Day 1
MOLEBIO	Making Solutions Practice;	Making Dilutions; Making Solutions Practice; Pipetting Techniques	<u>Lab #1</u>: Measurements, Micropipetting, and Sterile Techniques Solutions Practical	<u>Lab #1</u>: Measurements, Micropipetting, and Sterile Techniques Solutions Practical	Lecture: Basics of Chemistry
HW	Read DNA Science (pg. 321-330); Read Lab #1; Be ready for Practical	Read DNA Science (pg. 321-330); Read Lab #1; Be ready for Practical	Read DNA Science (pg. 321-330); Lab #1 due Friday; Be ready for Practical	Read DNA Science (pg. 321-330); Lab #1 due Friday; Be ready for Practical	Khan Academy/ Bozeman Biology/ other video links

	MONDAY September 19 Day 2	TUESDAY September 20 Day 3	WEDNESDAY September 21 Day 4	THURSDAY September 22 Day 5	FRIDAY September 23 Day 6
MOLEBIO	Lecture: Water, Buffers, and pH	Henderson Hasselbach Equation	H-H questions Lecture: Basics of Gel Electrophoresis (Part I)	<u>Lab #2</u>: Gel Electrophoresis: Practicing Loading Gels prepping for RUN 1: using 50X TAE buffer; dilution to 1X TAE; making 0.8% agarose in 1X TAE	<u>Lab #2</u>: Gel Electrophoresis: Practicing Loading Gels prepping for RUN 1: finish making solutions; cast gels
HW	Read through "The Nature of Amino Acids" handout Read "Gel Electrophoresis MANUAL"	Complete #1, 2, 4 on "The Nature of Amino Acids" handout; Read "Gel Electrophoresis MANUAL"	Read in text: 113-115; 357-359; Read Lab #2	Read Lab #2	Read Lab #2

	MONDAY September 26 Day 1	TUESDAY September 27 Day 2	WEDNESDAY September 28 Day 3	THURSDAY September 29 Day 4	FRIDAY September 30 Day 5
MOLEBIO	Lab #2: Gel Electrophoresis RUN 1 – control	Lab #2: Gel Electrophoresis prepping for RUN 2: different [agarose] or voltage condition	Lab #2: Gel Electrophoresis RUN 2 - variation	EXAM #1 GEL ELECTROPHORESIS HENDERSON-HASSELBACH EQUATION SOLUTION STUFF	Lecture: Carbon Skeletons and Amino Acids
HW	Lab #2 due Thursday; EXAM #1 THURSDAY	Lab #2 due Thursday; EXAM #1 THURSDAY	Lab #2 due tomorrow; EXAM #1 TOMORROW	Read pages 48 – 53; Starting Lectures about proteins tomorrow	Read pages 48 – 53; Read SciAm: Proteins

	MONDAY October 3 Day 6	TUESDAY October 4 Day 1	WEDNESDAY October 5 Day 2	THURSDAY October 6 Day 3	FRIDAY October 7 Day 4
MOLEBIO	Lecture: Protein Structure	Learning all 20 Amino Acids!	Learning all 20 Amino Acids! Lecture: Ionization of Amino Acids; Isoelectric Point	Lecture: Ionization of Amino Acids; Isoelectric Point	<u>Lab #3</u>: Electrophoretic Separation of Proteins myoglobin hemoglobin cytochrome c serum albumin How to make our buffers from scratch!
HW	Read pages 48-53; Read SciAm: Proteins; Read "Understanding the Nature of Amino Acids"	Read pages 48-53; Read SciAm: Proteins; Read "Understanding the Nature of Amino Acids"	Read pages 48-53; Read SciAm: Proteins; Read "Understanding the Nature of Amino Acids"	Read Lab #3; Complete questions #3, 5 – 7 in "Understanding the Nature of Amino Acids"	Read Lab #3; BE READY FOR PRACTICAL APPLICATION OF CHEMISTRY!

	MONDAY October 10	TUESDAY October 11	WEDNESDAY October 12	THURSDAY October 13 Day 5	FRIDAY October 14 Day 6
MOLEBIO	NO SCHOOL	STAFF DAY	NO SCHOOL	<u>Lab #3</u>: Electrophoretic Separation of Proteins Prepping RUN 1: preparing 5X tris-glycine stock buffer (1 per group) diluting to 1X tris-glycine running buffer @ pH 8.6 (1 per group) preparing 3.5% agarose in 1X tris-glycine running buffer	<u>Lab #3</u>: Electrophoretic Separation of Proteins Prepping RUN 2: preparing 1X sodium acetate running buffer @ pH 5.5 (1 per group) preparing 3.5% agarose in 1X sodium acetate running buffer
HW				Read Lab #3; Read protein article from Scientific American Read "Protein Gel Electrophoresis MANUAL"	Read Lab #3; Read protein article from Scientific American Read "Protein Gel Electrophoresis MANUAL"

	MONDAY October 17 Day 1	TUESDAY October 18 Day 2	WEDNESDAY October 19 Day 3	THURSDAY October 20 Day 4	FRIDAY October 21 Day 5
MOLEBIO	Lab #3: Electrophoretic Separation of Proteins cast gel for RUN 1 diluting proteins learning staining/destaining procedure	Lab #3: Electrophoretic Separation of Proteins RUN 1: Tris-Glycine at pH 8.6 cast gel for RUN 2	Lab #3: Electrophoretic Separation of Proteins RUN 2: Acetate at pH 5.5	Lab #3: Electrophoretic Separation of Proteins RUN 3: Tris-Glycine-SDS SDS-PAGE	EXAM #2 AMINO ACIDS PROTEINS GEL ELECTROPHORESIS
HW	Read Lab #3; EXAM #2 FRIDAY	Read Lab #3; EXAM #2 FRIDAY	Lab #3 due Friday; EXAM #2 FRIDAY	Lab #3 due tomorrow; EXAM #2 FRIDAY	Read Lab #4

	MONDAY October 24 Day 6	TUESDAY October 25 Day 1	WEDNESDAY October 26 Day 2	THURSDAY October 27 Day 3	FRIDAY October 28 Day 4
MOLEBIO	<u>Lab #4</u>: Introduction to Spectro-photometry	<u>Lab #4</u>: Introduction to Spectro-photometry	**Lecture:** Enzymes General Properties	**Lecture:** Enzymes Factors that Affect Reaction Rates Michaelis-Menton equation Lineweaver-Burk	**Lecture:** Enzymes Kinetics Questions
HW	Be ready for Lab #4!	Lab #4 due tomorrow	Read over NOTES; Read over Lab #5 (yes, I know it's long!)	Read over NOTES; Read Lab #5	Read over NOTES; Read Lab #5

	MONDAY October 31 Day 5	TUESDAY November 1 Day 6	WEDNESDAY November 2 Day 1	THURSDAY November 3 Day 2	FRIDAY November 4 Day 3
MOLEBIO	**Lecture:** Enzyme Regulation	<u>Lab #5</u>: Enzyme Kinetics (preview of lab)	<u>Lab #5</u>: Enzyme Kinetics establishment of standard Curve; cellobiase reaction with and without enzyme	<u>Lab #5</u>: Enzyme Kinetics effect of temperature on cellobiase reaction	<u>Lab #5</u>: Enzyme Kinetics effect of pH on cellobiase reaction
HW	Read over NOTES; Read Lab #5	Read Lab #5; Complete Pre-Lab Questions on pages 5 and 6 Be ready to work on tomorrow!	Finish Activity 1 questions and graphs; Lab #5 due next Wednesday	Finish Activity 2 questions and graphs; Lab #5 due next Wednesday	Finish Activity 3 questions and graphs; Lab #5 due next Wednesday

	MONDAY November 7 Day 4	TUESDAY November 8 Day 5	WEDNESDAY November 9 Day 6	THURSDAY November 10 Day 1	FRIDAY November 11
MOLEBIO	Lab #5: Enzyme Kinetics effect of enzyme concentration on cellobiase reaction	Lab #5: Enzyme Kinetics effect of substrate concentration on cellobiase reaction	EXAM #3 ALL ABOUT ENZYMES!	Lecture: DNA History of Discovery	
HW	Finish Activity 4 questions and graphs; Lab #5 due Wednesday EXAM #3 WEDNESDAY	Finish Activity 5 questions and graphs; Lab #5 due tomorrow EXAM #3 TOMORROW	Read pg. 3 – 17; 24 – 34; 36 – 43	Read pg. 3 – 17; 24 – 34; 36 – 43	

	MONDAY November 14 Day 2	TUESDAY November 15 Day 3	WEDNESDAY November 16 Day 4	THURSDAY November 17 Day 5	FRIDAY November 18 Day 6
MOLEBIO	Lecture: DNA DNA Structure & Replication	Lecture: DNA DNA Structure & Replication	Lecture: DNA Amplification via PCR	Lecture: DNA DNA Sequencing	Lecture: DNA Human Genome Project
HW	Read pg. 3 – 17; 24 – 34; 36 – 43	Read pg. 3 – 17; 24 – 34; 36 – 43 Read 192 - 198	Read pg. 3 – 17; 24 – 34; 36 – 43 Read 192 - 198	Read pg. 3 – 17; 24 – 34; 36 – 43 Read Lab #6	Read pg. 3 – 17; 24 – 34; 36 – 43 Read Lab #6

	MONDAY November 21 Day 1	TUESDAY November 22 Day 2	WEDNESDAY November 23 Day 3	THURSDAY November 24	FRIDAY November 25
MOLEBIO	Lecture: Basics of Gel Electrophoresis (Part II)	Lab #6: PV92 PCR Bioinformatics (protocol review)	Lab #6: PV92 PCR Bioinformatics Part I: cheek cell DNA template preparation		
HW	Read pg: 192 – 198 Read Lab #6	Be ready for Part I of Lab #6 tomorrow!	Read Lab #6 Answer Questions #1 – 3 on page 27		

	MONDAY November 28 Day 4	TUESDAY November 29 Day 5	WEDNESDAY November 30 Day 6	THURSDAY December 1 Day 1	FRIDAY December 2 Day 2
MOLEBIO	Lab #6: PV92 PCR Bioinformatics Part II: amplification of DNA via polymerase chain reaction (PCR)	Lab #6: PV92 PCR Bioinformatics Part III: gel electrophoresis of amplified PCR samples	Lab #6: PV92 PCR Bioinformatics Part IV: analysis and interpretation of results	Lecture: Protein Synthesis Defining a Gene; RNA	Lecture: Protein Synthesis Transcription
HW	Read Lab #6 Lab #6 due Thursday Answer Questions #1 – 5 on page 28	Read Lab #6 Lab #6 due Thursday Answer Questions #1 – 4 on page 29	Read pg. 53 – 58; 65 – 67 Lab #6 due tomorrow Answer Questions #1 – 2 and finish table on page 30	Read pg. 53 – 58; 65 – 67	Read pg. 53 – 58; 65 – 67

	MONDAY December 5 Day 3	TUESDAY December 6 Day 4	WEDNESDAY December 7 Day 5	THURSDAY December 8 Day 6	FRIDAY December 9 Day 1
MOLEBIO	Lecture: Protein Synthesis Translation	Lecture: Protein Synthesis Mutations	EXAM #4 DNA AND PROTEIN SYNTHESIS	Lecture: Restriction Enzymes	Lab #7: Restriction Enzyme Simulation
HW	Read pg. 53 – 58; 65 – 67 EXAM #4 WEDNESDAY	Read pg. 53 – 58; 65 – 67 EXAM #4 WEDNESDAY	Read pg. 107 – 115 in DNA Science Read through Labs #7, 8, and 9	Read pg. 107 – 115 in DNA Science Read through Labs #7, 8, and 9	Lab #7 due Monday; Read Lab #8

	MONDAY December 12 Day 2	TUESDAY December 13 Day 3	WEDNESDAY December 14 Day 4	THURSDAY December 15 Day 5	FRIDAY December 16 Day 6
MOLEBIO	<u>Lab #8</u>: Restriction Enzyme Simulation using NEB Cutter	<u>Lab #9</u>: DNA Restriction Analysis run restriction digest <u>prepare</u>: 10X TBE stock buffer dilute 1X running buffer 25 mL of 0.8% agarose	<u>Lab #9</u>: DNA Restriction Analysis prepare gel before class load and run gel after class* visualization with SYBR stain	<u>Lab #9</u>: DNA Restriction Analysis analyze results	<u>Lab #9</u>: DNA Restriction Analysis re-analyze results using Logger Pro
HW	Lab #8 due tomorrow; Read Lab #9 (textbook pages 351 – 374) Lab #9: Do Questions 1 – 6	Read Lab #9 (textbook pages 351 – 374) Come in to prepare gel before class! Get Logger Pro!	Read Lab #9 (textbook pages 351 – 374) Lab #9 due Friday Do Questions 7 – 10	Read Lab #9 (textbook pages 351 – 374) Lab #9 due Friday Do Questions 11 – 14	Read Lab #10 (textbook pages 375 – 384) Lab #9 Logger Pro extension due Monday

	MONDAY December 19 Day 1	TUESDAY December 20 Day 2	WEDNESDAY December 21 Day 3	THURSDAY December 22 Day 4	FRIDAY December 23 Day 5
MOLEBIO	<u>Lab #10</u>: Effects of DNA Methylation on Restriction discuss concept of lab review protocol	<u>Lab #10</u>: Effects of DNA Methylation on Restriction run methylase reaction; prepare 0.8% agarose	<u>Lab #10</u>: Effects of DNA Methylation on Restriction run restriction reaction	<u>Lab #10</u>: Effects of DNA Methylation on Restriction cast gels in boxes; load and run gel; visualize with SYBR-stain;	(catch up day)
HW	Read Lab #10 (textbook pages 375 – 384)	Lab #10 due Friday: Questions #1 – 6 on page 383 – 384 due Friday	Lab #10 due Friday: Questions #1 – 6 on page 383 – 384 due Friday	Lab #10 due Friday: Questions #1 – 6 on page 383 – 384 due Friday	Read pages: 130 – 131; 116 – 129 in DNA Science

	MONDAY December 26	TUESDAY December 27	WEDNESDAY December 28	THURSDAY December 29	FRIDAY December 30
MOLEBIO					
HW					

	MONDAY January 2	TUESDAY January 3 Day 6	WEDNESDAY January 4 Day 1	THURSDAY January 5 Day 2	FRIDAY January 6 Day 3
MOLEBIO		Lecture: Bacterial Genetics	Lecture: Bacterial Genetics	Lecture: Bacterial Genetics	<u>Lab #11</u>: Engineering a Plasmid
HW		Read pages: 130 – 131; 116 – 129 in DNA Science	Read pages: 130 – 131; 116 – 129 in DNA Science	Read Lab #11	Lab #11 due Monday

	MONDAY January 9 Day 4	TUESDAY January 10 Day 5	WEDNESDAY January 11 Day 6	THURSDAY January 12 Day 1	FRIDAY January 13 Day 2
MOLEBIO	Plasmid Mapping Activity 1	Plasmid Mapping Activity 2	Prepping for Bacterial Culture Techniques Labs using an autoclave preparing LB plates preparing LB/amp plates	Prepping for Bacterial Culture Techniques Labs using an autoclave preparing group bottles of LB broth setting up the group stations reviewing the tools of microbiology	Prepping for Bacterial Culture Techniques Labs relearning learning serial dilutions reviewing the lab protocols
HW	Plasmid Mapping Activity 1 due tomorrow;	Plasmid Mapping Activity 2 due next Tuesday; Read pages 331 – 350 (Lab #2*) in DNA Science	Plasmid Mapping Activity 2 due Tuesday; Read Labs #12 – 14; Read pages 116-119, 331-350	Plasmid Mapping Activity 2 due Tuesday; Read Labs #12 – 14; Read pages 116-119, 331-350	Plasmid Mapping Activity 2 due Tuesday; Read Labs #12 – 14; Read pages 116-119, 331-350

	MONDAY January 16	TUESDAY January 17 Day 3	WEDNESDAY January 18 Day 4	THURSDAY January 19 Day 5	FRIDAY January 20 Day 6
MOLEBIO		<u>Lab #12</u>: **Bacterial Culture Techniques** isolation of individual *E. coli* MM294 colonies understanding antibiotic resistance	<u>Lab #12 – 13</u>: **Bacterial Culture Techniques** observing effects of antibiotic resistance preparation of an overnight suspension culture	<u>Lab #13 – 14</u>: **Bacterial Culture Techniques** determining the number of individual cells in an overnight culture serial dilutions in practice	<u>Lab #14</u>: **Bacterial Culture Techniques** calculation of cells in suspension
HW		Read Labs #12 – 14; Read pages 116-119, 331-350	Lab #12 Questions; Read Lab #13 – 14	Lab #13 Questions; Read Lab # 14	Lab #14 Questions; Read Lab #15

	MONDAY January 23	TUESDAY January 24	WEDNESDAY January 25	THURSDAY January 26	FRIDAY January 27
MOLEBIO	REGENTS WEEK – NO CLASSES				
HW					

	MONDAY January 30 Day 1	TUESDAY January 31 Day 2	WEDNESDAY February 3 Day 3	THURSDAY February 2 Day 4	FRIDAY February 3 Day 5
MOLEBIO	Lab #15: Bacterial Culture Techniques (media making day) reviewing the Part A and Part B protocols; setting up the schedules for sample readings preparation of tubes and plates for tomorrow	Lab #15: Bacterial Culture Techniques Part A – determination of *E. coli* growth pattern via spectrophotometry	Lab #15: Bacterial Culture Techniques analysis of Part A setting up the schedules for sample readings preparation of tubes and plates for tomorrow	Lab #15: Bacterial Culture Techniques Part B – determination of *E. coli* cell count via spectrophotometry and serial dilutions	Lab #15: Bacterial Culture Techniques analysis of part B
HW	Be ready for Lab #15 Part A tomorrow;	Be ready for Lab #15 analysis	Be ready for Lab #15 Part B tomorrow	Be ready for Lab #15 Part B tomorrow	Lab #15 due Monday; Read pages: 122 – 125 385 – 398 (DNA Science Lab #5*)

	MONDAY February 6 Day 6	TUESDAY February 7 Day 1	WEDNESDAY February 8 Day 2	THURSDAY February 9 Day 3	FRIDAY February 10 Day 4
MOLEBIO	Making Media LB plates LB/amp plates discuss theory of bacterial transformation	Making Media LB plates LB/amp plates review transformation procedure	Lab #16: Rapid Colony Transformation of *E. coli* with Plasmid DNA streaking starter plates	Lab #16: Rapid Colony Transformation of *E. coli* with Plasmid DNA transformation using pAMP	Lab #16: Rapid Colony Transformation of *E. coli* with Plasmid DNA analysis of results using pAMP streaking starter plates [pGREEN] protocol
HW	Read pages: 385 – 398 (DNA Science Lab #5*) Read "Transformations" handout	Read pages: 385 – 398 (DNA Science Lab #5*) Read "Transformations" handout	Read pages: 385 – 398 (DNA Science Lab #5*)	Read pages: 385 – 398 (DNA Science Lab #5*)	Answer questions #1 – 4 on pages 395 – 396

	MONDAY February 13 Day 5	TUESDAY February 14 Day 6	WEDNESDAY February 15 Day 1	THURSDAY February 16 Day 2	FRIDAY February 17 Day 3
MOLEBIO	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA transformation with pGREEN using different heat shock times	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA analysis of results using pGREEN and different heat shock times streaking starter plates Bonnie Bassler Video	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA transformation using pVIB	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA analysis of results using pVIB	**EXAM #5** DNA RESTRICTION ANALYSIS & BACTIERAL TRANSFORMATION
HW	Read pages: 385 – 398 (DNA Science Lab #5*)	Read pVIB handout; EXAM #5 FRIDAY	Read pVIB handout; EXAM #5 FRIDAY	Read pVIB handout; EXAM #5 FRIDAY	Read pages: 399 – top of 407 (DNA Science Lab #6*)

	MONDAY February 20	TUESDAY February 21	WEDNESDAY February 22	THURSDAY February 23	FRIDAY February 24
MOLEBIO					
HW					

	MONDAY February 27 Day 4	TUESDAY February 28 Day 5	WEDNESDAY March 1 Day 6	THURSDAY March 2 Day 1	FRIDAY March 3 Day 2
MOLEBIO	Review Lab #17 Concept Thread	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme transformation of MM294 with pAMP review tomorrow's protocol	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme preparation of an overnight suspension culture of transformed *E.coli* +pAMP review tomorrow's protocol	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme preparation of control and pAMP 'sup' via centrifugation review tomorrow's protocol	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme assay of β-lactamase via spectrophotometry review Monday's protocol
HW	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Answer questions #1 – 6 on pages 406 – 407 Read pages: 411 – 422 (DNA Science Lab #7*)

	MONDAY March 6 Day 3	TUESDAY March 7 Day 4	WEDNESDAY March 8 Day 5	THURSDAY March 9 Day 6	FRIDAY March 10 Day 1
MOLEBIO	<u>Lab #18</u>: Purification and Identification of Recombinant GFP transformation of MM294 with pGREEN review lab concept during incubation	<u>Lab #18</u>: Purification and Identification of Recombinant GFP preparation of an overnight suspension culture of transformed *E.coli* +pGREEN review tomorrow's protocol	<u>Lab #18</u>: Purification and Identification of Recombinant GFP lyzozyme used to lysate cells to release proteins	<u>Lab #18</u>: Purification and Identification of Recombinant GFP purification of GFP by HIC (Hydrophobic Interaction Chromatography)	<u>Lab #18</u>: Purification and Identification of Recombinant GFP PAGE analysis of purified GFP stain/destain with Coomassie Blue
HW	Read pages: 411 – 422 (DNA Science Lab #7*) Review pages: 340 – 343 (DNA Science Lab #2B*)	Review Procedure on pages 414 – 416	Review Procedure on pages 414 – 416	Review Procedure on pages 419 – 420	Answer questions 1 – 4 on page 416 1 – 3 on page 421 Read pages: 125 – 127 423 – 441 (DNA Science Lab #8*)

	MONDAY March 13 Day 2	TUESDAY March 14 Day 3	WEDNESDAY March 15 Day 4	THURSDAY March 16 Day 5	FRIDAY March 17 Day 6
MOLEBIO	Review Lab #19 Concepts Making Media LB plates LB/amp plates LB broth LB/amp broth GTE (glucose/tris/EDTA); TE (tris/EDTA); SDS/NaOH; KOAc; isopropanol; ethanol Streak Starter Plates	<u>Lab #19</u>: Purification and Identification of Plasmid DNA rapid colony transformation of *E.coli* with pAMP	<u>Lab #19</u>: Purification and Identification of Plasmid DNA calculating transformation efficiency preparation of an overnight suspension culture of our *E.coli* MM294/pAMP transformants	<u>Lab #19</u>: Purification and Identification of Plasmid DNA preparation of duplicate minipreps (PART I)	<u>Lab #19</u>: Purification and Identification of Plasmid DNA preparation of duplicate minipreps (PART II)
HW	Read pages: 423 – 441 Review pages: (391 – 395)	Review page: 423 – 441 (342)	Review pages: 423 – 441 (427 – 428)	Review pages: 423 – 441 (428 – 429)	Review pages: 423 – 441 (431 – 435) Answer questions 1 – 3 on page 430

	MONDAY March 20 Day 1	TUESDAY March 21 Day 2	WEDNESDAY March 22 Day 3	THURSDAY March 23 Day 4	FRIDAY March 24 Day 5
MOLEBIO	<u>Lab #19</u>: Purification and Identification of Plasmid DNA set up and run restriction digest of purified pAMP with *Bam*HI/ *Hin*dIII prepare 1X TBE buffer prepare 0.8% agarose	<u>Lab #19</u>: Purification and Identification of Plasmid DNA separate DNA fragments by electrophoresis	<u>Lab #19</u>: Purification and Identification of Plasmid DNA analysis of fragments clean up/set up workstations for next labs	<u>Labs #20 – 23</u>: Discussion of the 'Final Four' Lab Stream • Ligation • Transformation • Replica Plating • Miniprep	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes restriction digest of the plasmids pAMP and pKAN prepare 0.8% agarose
HW	Review pages: 423 – 441 (435 – 436)	Review pages: 423 – 441	Review pages: 437 – 439 Answer questions 1 – 3a, b, c on page 439 (use Logger Pro for #1)	Review pages: 443 – 455 (447 – 448) (DNA Science Lab #9*)	Review pages: 443 – 455 (448 – 451) (DNA Science Lab #9*)

	MONDAY March 27 Day 6	TUESDAY March 28 Day 1	WEDNESDAY March 29 Day 2	THURSDAY March 30 Day 3	FRIDAY March 31 Day 4
MOLEBIO	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes separate digested plasmid fragments by electrophoresis ("The Prudent Control")	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes ligation of digested plasmid DNA prepare 0.8% agarose	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes separate ligated DNA fragments by electrophoresis	Making Media LB plates LB broth toothpicks	Making Media LB plates LB broth
HW	Review pages: 443 – 455 (453 – 454)	Review pages: 443 – 455 (454*)	Answer questions 1 – 3, 5 - 7 on page 455	Read pages: 457 – 470 (DNA Science Lab #10*)	Read pages: 457 – 470 (DNA Science Lab #10*)

	MONDAY April 3 Day 5	TUESDAY April 4 Day 6	WEDNESDAY April 5 Day 1	THURSDAY April 6 Day 2	FRIDAY April 7 Day 3
MOLEBIO	Making Media LB/amp plates LB/kan plates LB/amp/kan plates reviewing Lab #20 streak starters	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA prepare overnight culture of *E.coli* MM294	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA preparation of a 250 mL mid-log suspension culture (pg. 347-348) preparation of competent cells (pg. 460-462)	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA perform *E. coli* transformation with recombinant DNA	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA analysis of transformation Answer Questions #1-4 on page 469-470
HW	Review pages: 457 – 470 (340 – 342)	Review pages: 457 – 470 (347 – 348) (460 – 462)	Review pages: 457 – 470 (463 – 468)	Review pages: 457 – 470 (468 – 470)	Complete Questions #1, 3, & 4 on pg. 469 – 470 Read pages: 473 – 477 (DNA Science Lab #11*)

	MONDAY April 10 Day 4	TUESDAY April 11 Day 5	WEDNESDAY April 12 Day 6	THURSDAY April 13 Day 1	FRIDAY April 14
MOLEBIO	<u>Lab #22</u>: Replica Plating to Identify Mixed *E.coli* Populations	<u>Lab #22</u>: Replica Plating to Identify Mixed *E.coli* Populations analysis of replica plates tart prepping the Miniprep Answer Questions #1-3 on page 477	<u>Lab #23</u>: Purification and Identification of Recombinant Plasmid DNA preparation of an overnight suspension culture of our transformed *E.coli*	<u>Lab #23</u>: Purification and Identification of Recombinant Plasmid DNA preparation of duplicate minipreps (PART I)	
HW	Review pages: 473 – 477	Complete Questions #1 – 3 on pg. 477 Read pages: 481 – 499 (DNA Science Lab #12*) Review pages: (340 – 342)	Review pages: 481 – 499 (484 – 485)	Review pages: 481 – 499 (486)	

	MONDAY April 17	TUESDAY April 18	WEDNESDAY April 19	THURSDAY April 20	FRIDAY April 21
MOLEBIO					
HW					

	MONDAY April 24 Day 2	TUESDAY April 25 Day 3	WEDNESDAY April 26 Day 4	THURSDAY April 27 Day 5	FRIDAY April 28 Day 6
MOLEBIO	Lab #23: Purification and Identification of Recombinant Plasmid DNA preparation of duplicate minipreps (PART II)	Lab #23: Purification and Identification of Recombinant Plasmid DNA set up and run restriction digest of purified ligation products with *Bam*HI / *Hin*dIII	Lab #23: Purification and Identification of Recombinant Plasmid DNA separate DNA fragments by electrophoresis	Lab #23: Purification and Identification of Recombinant Plasmid DNA recap of our 'simple recombinant'	EXAM #6 LIGATION OF, TRANSFORMATION WITH, AND PURIFICATION/ IDENTIFICATION OF RECOMBINANT DNA
HW	Review pages: 481 – 496 (487 – 490)	Review pages: 481 – 496 (490 – 491)	Review pages: 481 – 496	Based on your analysis, make scale restriction maps of your M1 and M2 plasmids. #9 on page 496	Read the bottom of page 455!

	MONDAY May 1 Day 1	TUESDAY May 2 Day 2	WEDNESDAY May 3 Day 3	THURSDAY May 4 Day 4	FRIDAY May 5 Day 5
MOLEBIO	Lab #24: Creating a Library of Bacteriophage λ and pBLU Making Media: LB plates LB/amp/X-gal plates $CaCl_2$	Lab #24: Creating a Library of Bacteriophage λ and pBLU restriction digest of the plasmid pBLU and λ DNA with *Bam*HI and *Hin*dIII; predict fragments of pBLU and λ DNA prepare 0.8% agarose	Lab #24: Creating a Library of Bacteriophage λ and pBLU separate digested plasmid fragments by electrophoresis ("The Prudent Control")	Lab #24: Creating a Library of Bacteriophage λ and pBLU ligation of digested plasmid DNA prepare 0.8% agarose	Lab #24: Creating a Library of Bacteriophage λ and pBLU separate ligated DNA fragments by electrophoresis
HW	Review pages: (447 – 448)	Review pages: (448 – 450)	Review pages: (454)	Review pages: (454)	Review pages: (336 – 338)
	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----

	MONDAY May 8 Day 6	TUESDAY May 9 Day 1	WEDNESDAY May 10 Day 2	THURSDAY May 11 Day 3	FRIDAY May 12 Day 4
MOLEBIO	Lab #24: Creating a Library of Bacteriophage λ and pBLU reviewing classic protocol for preparing competent cells streak starters	Lab #24: Creating a Library of Bacteriophage λ and pBLU prepare overnight culture of *E.coli* MM294	Lab #24: Creating a Library of Bacteriophage λ and pBLU preparation of a 250 mL mid-log suspension culture (pg. 347-348) preparation of competent cells (pg. 460-462)	Lab #24: Creating a Library of Bacteriophage λ and pBLU perform *E. coli* transformation with recombinant DNA	Lab #24: Creating a Library of Bacteriophage λ and pBLU analysis of transformation selection of colonies for miniprep and re-streak on new LB/amp/X-gal plates
HW	Review pages: (342)	Review pages: (347 – 348) (460 – 462)	Review pages: (463 – 468)	Review pages: (468 – 470) (336 – 338)	Review pages: (464 – 485)
	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----

	MONDAY May 15 Day 5	TUESDAY May 16 Day 6	WEDNESDAY May 17 Day 1	THURSDAY May 18 Day 2	FRIDAY May 19 Day 3
MOLEBIO	Lab #24: Creating a Library of Bacteriophage λ and pBLU preparation of duplicate minipreps (PART I)	Lab #24: Creating a Library of Bacteriophage λ and pBLU preparation of duplicate minipreps (PART II)	Lab #24: Creating a Library of Bacteriophage λ and pBLU set up and run restriction digest of purified plasmid DNA with *Bam*HI / *Hin*dIII prepare 0.8% agarose	Lab #24: Creating a Library of Bacteriophage λ and pBLU separate purified plasmid DNA fragments by electrophoresis	Lab #24: Creating a Library of Bacteriophage λ and pBLU analyze fragments catalog library!
HW	Review pages: (486)	Review pages: (487 – 490)	Review pages: (490 – 491)		

	MONDAY May 22 Day 4	TUESDAY May 23 Day 5	WEDNESDAY May 24 Day 6	THURSDAY May 25 Day 1	FRIDAY May 26 Day 2
MOLEBIO	Lab #24: Creating a Library of Bacteriophage λ and pBLU (CATCH UP DAY!)	Lab #24: Creating a Library of Bacteriophage λ and pBLU (CATCH UP DAY!)	Lab #24: Creating a Library of Bacteriophage λ and pBLU (CATCH UP DAY!)	Dr. Tsien Lecture on GFP	SNOW DAY?
HW					

	MONDAY May 29	TUESDAY May 30 Day 3	WEDNESDAY May 31 Day 4	THURSDAY June 1 Day 5	FRIDAY June 2 Day 6
MOLEBIO	Making Media lots of LB/amp plates & nutrient agar plates streak starters for transformation of *E. coli* MM294 with PM1/PM2	<u>Lab #25</u>: Fluorescent *E. coli* Art Show! transformation of *E. coli* MM294 with 'fluorescent' plasmids	<u>Lab #25</u>: Fluorescent *E. coli* Art Show! preparation of fluorescent lawns	<u>Lab #25</u>: Fluorescent *E. coli* Art Show! painting with bacteria	<u>Lab #25</u>: Fluorescent *E. coli* Art Show!
HW	Read Lab #25	Read Lab #25	Answer Lab #25 Questions		

	MONDAY June 5 Day 1	TUESDAY June 6 Day 2	WEDNESDAY June 7 Day 3	THURSDAY June 8 Day 4	FRIDAY June 9 Day 5
MOLEBIO	SENIOR DAY OF OPTIONAL ATTENDANCE DUE TO A CRITICAL MASS OF APATHY	Lab #26: Swabbing the School… ☺	Lab #26: Swabbing the School… ☺	Lab #26: Swabbing the School… ☺	SENIOR PICNIC
HW					